

Selected Papers of the  
Fifth International Congress of  
Anthropological and Ethnological  
Sciences

Philadelphia, September 1-9, 1956

---

---

MEN AND CULTURES

---

---

*Edited under the Chairmanship of*  
Anthony F. C. Wallace



PHILADELPHIA  
UNIVERSITY OF PENNSYLVANIA PRESS

© 1960 by the Trustees of the University of Pennsylvania  
Published in Great Britain, India, and Pakistan  
by the Oxford University Press  
London, Bombay, and Karachi

Made and printed in Great Britain by  
William Clowes and Sons, Limited, London and Beccles

# OFFICERS OF THE CONGRESS

## PRESIDENT

Froelich G. Rainey (United States)

## VICE PRESIDENTS

H. Baldus	(Brazil)	T. F. McIlwraith	(Canada)
Daryll Forde	(United Kingdom)	A. Mendez	(Panama)
B. S. Guha	(India)	M. Oka	(Japan)
R. Heine-Geldern	(Austria)	H. Petri	(Germany)
K. G. Izikowitz	(Sweden)	A. H. Schultz	(Switzerland)
H. Larsen	(Denmark)	H. V. Vallois	(France)

## SECRETARIAT

Secretaries: William N. Fenton  
Alfred Kidder II  
Executive Secretary: Yvonne Oddon  
Deputy Secretary: Martha T. Everett  
Treasurer:  
National Academy of Sciences  
National Research Council  
Washington 25, D.C.

## ORGANIZING COMMITTEE

Chairman: Froelich G. Rainey  
Finance: Clyde Kluckhohn  
Program: Melville J. Herskovits  
Local Arrangements: Alfred Kidder II  
Foreign Delegations: H. B. Collins, Jr.  
Sponsoring: William Duncan Strong  
Translation: E. H. Ackerknecht  
Members at Large:  
Loren C. Eiseley  
A. Irving Hallowell  
Alfred Metraux

## PUBLICATION COMMITTEE

Loren C. Eiseley  
Frederica de Laguna  
William L. Thomas, Jr.  
Anthony F. C. Wallace, Chairman

## SPONSORS OF THE CONGRESS

American Anthropological Association  
Bryn Mawr College  
The Ford Foundation  
Longwood Foundation, Inc.  
National Academy of Sciences—National Research Council  
The National Science Foundation  
Philadelphia Anthropological Society  
United Nations Educational, Scientific, and Cultural Organization  
The University of Pennsylvania  
The Wenner-Gren Foundation for Anthropological Research  
Published with financial assistance from UNESCO  
and under the auspices of the International  
Council for Philosophy and Humanistic Studies and of the  
International Union of Anthropological and Ethnological Sciences.

H. B. NICHOLSON	
<i>The Mixteca-Puebla Concept in Mesoamerican Archeology: A Re-examination</i>	612
CÉSAR LIZARDI RAMOS	
<i>El Patio mas Antiguo de Mesoamerica</i>	618
JOHN HOWLAND ROWE	
<i>Cultural Unity and Diversification in Peruvian Archaeology</i>	627
W. H. SEARS	
<i>The Gulf Coastal Plain in North American Prehistory</i>	632
E. H. SELLARDS and G. L. EVANS	
<i>The Paleo-Indian Culture Succession in the Central High Plains of Texas and New Mexico</i>	639
DEMITRI B. SHIMKIN	
<i>Western Siberian Archeology, An Interpretative Summary</i>	648

## Section VI: PHYSICAL ANTHROPOLOGY

J. LAWRENCE ANGEL	
<i>Physical and Psychological Factors in Culture Growth</i>	665
R. F. A. DEAN	
<i>The Pattern of Development of African Children</i>	671
MIGUEL FUSTÉ	
<i>A Study of the Rotation of the Occipital Region in the Neandertal and Sapiens Skulls</i>	678
LUIS PERICOT GARCIA	
<i>El Poblamiento Paleolitico de España</i>	681
GABRIEL W. LASKER	
<i>Small Isolated Human Breeding Populations and Their Significance for the Process of Racial Differentiation</i>	684
J. NEMESKÉRI and G. ACSÁDI	
<i>La Paléodémographie, Base Nouvelle de l'Analyse Anthropologique</i>	692
ADOLPH H. SCHULTZ	
<i>Significance of Recent Primatology for Physical Anthropology</i>	698
ILSE SCHWIDETZKY	
<i>New Research in German Forensic Anthropology</i>	703
BOŽO ŠKERLJ	
<i>Partial Volumes and Surface Areas of the Human Body</i>	709
HIKASHI SUZUKI	
<i>Changes in the Skull Features of the Japanese People from Ancient to Modern Times</i>	717
N. C. TAPPEN	
<i>Primate Evolution and Human Behavior</i>	725
PIERRE A. VAMAL	
<i>Les Proportions de la Tête Chez les Français</i>	732

# Contents

xv

page

M. VERDUN, J. DE TAILLE, R. BOURDIOL, and J. POGGI	
<i>A Study of the Racial Morphology of the French Population</i>	740
J. S. WEINER	
<i>The Evolutionary Taxonomy of the Hominidae in the Light of the Piltdown Investigation</i>	741

## Section VII: APPLIED ANTHROPOLOGY

G. E. J. B. BRAUSCH	
<i>Applied Anthropology in the Belgian Territories in Africa (An Experience of Integration of the Tribal Institutions into the Pattern of the New Social Action in Central Africa)</i>	755
GENEVÈVE M. D'HAUCOURT	
<i>De Quelques Difficultés dues aux Différences de Cultures, Rencontrées dans les Missions d'Assistance Technique</i>	764
LAURA THOMPSON	
<i>Applied Anthropology, Community Welfare, and Human Conservation</i>	769

## Section VIII: LINGUISTICS

JOSEPH B. CASAGRANDE	
<i>The Southwest Project in Comparative Psycholinguistics: A Preliminary Report</i>	777
PAUL L. GARVIN and M. MATHIOT	
<i>The Urbanization of the Guarani Language—A Problem in Language and Culture</i>	783
JOSEPH H. GREENBERG	
<i>The General Classification of Central and South American Languages</i>	791
D. A. OLDEROGGE	
<i>The Origin of the Hausa Language</i>	795
D. C. SIMMONS	
<i>Tonality in Efik Signal Communication and Folklore</i>	803
Author Index	809

10. *El Paraguay y su Ciudadanía*, América (Buenos Aires), May-June 1954.
11. *El Solar Guaraní* (n.p., 1947).
12. *Op. cit.* in fn. 11.
13. Jan Mukařovský, *Jazyk spisovný a jazyk básnický* (*Standard Language and Poetic Language*), *op. cit.* in fn. 3, pp. 123 ff., transl. *op. cit.* in fn. 3, pp. 19 ff.
14. *Op. cit.* in fn. 4, pp. 99 ff.
15. *Paraguay en Marcha*, Vol. II, núm. 13 (January, 1949).
16. *Op. cit.* in fn. 15.
17. *Ibid.*
18. *Revista del Turismo* (Asunción), May, 1945.
19. *Op. cit.* in fn. 15.
20. *Ibid.*

# THE GENERAL CLASSIFICATION OF CENTRAL AND SOUTH AMERICAN LANGUAGES

*Joseph H. Greenberg*

The classification of Central and South American languages set forth in the appendix to this paper is provisional in some respects. The eight families listed are to be considered branches of a more inclusive stock which probably includes also all the remaining American languages except Na-Dene and Eskimauan. Among the groups listed here only Otomanguean, which has not yet been thoroughly investigated by the writer, is considered at all not likely to belong to this great family. The problem of the classification of American languages becomes, therefore, for the most part a vast problem in the subgrouping of this single dominant family. It follows that, if this view proves correct, it will not be sufficient merely to show that a certain set of languages are related in order to prove that they form a stock. We must demonstrate that all of the languages within the group are more closely related to each other than any are to any languages outside the group. We distinguish, therefore, between the establishment of a valid relationship and that of a valid genetic group at whatever level. For example, Swedish, Albanian and Hindi are all related but they do not form a valid genetic group, and culture-historical conclusions drawn from treating them in this manner would be highly misleading.

If the thesis presented here is correct it will be possible to show that certain apparently contradictory theses concerning genetic relationships are not, in fact, incompatible, and we may thus avoid useless controversies. For example, Freeland and Sapir considered certain languages in Mexico to be Penutian; Whorf and McQuown added others, notably Mayan, in a family which likewise includes Azteco-Tanoan. It is my opinion that these languages are related to both California Penutian and to the Azteco-Tanoan languages but more closely to the former. The problem thus becomes one of subgrouping within the larger stock. This situation obtained to such a degree in South America that the writer considers that, whereas the groupings designated here by capital letters, e.g., Paezan, Andean and Macro-Ge, are for the most part certain as valid genetic groupings, it is by no means inconceivable, though unlikely, that, for example, Andean might turn out to be closer to Macro-Ge in III than to Equatorial in II, or that Paezan is closer to Andean than to Chibcha proper, although this alternative was carefully considered and rejected. A degree of uncertainty in subgrouping exists also at the lowest level. Thus I am by no means entirely certain that Bororo might not be considered a Ge language proper rather than as having a separate status within Macro-Ge. This should not be too surprising. After a century or more of comparative Indo-European studies the existence of an Italo-Celtic grouping is still being debated.

Of the eight groups outlined here, the greatest uncertainty exists in the case of the two new vast groupings in South America, Andean-Equatorial and Ge-Pano-Carib. It should be emphasized that the doubt does not pertain to the

relationship among all of these languages but rather to the correctness of these two assemblages of languages as valid genetic groupings in the sense described above.

The time at my disposal is, of course, too brief to discuss the methodological problems with any degree of thoroughness. These will be treated fully in a projected series of articles in which it is expected that the classification will be set forth in detail and each family treated separately. A few important methodological considerations may, however, be pointed out. Only those resemblances which involve both sound and meaning simultaneously are considered relevant for historical connections. When the morphemes involved are roots this is called lexical comparison, when they are affixes, grammatical. There is no contradiction in the results attained by lexical and grammatical comparison and both methods are employed as far as possible. For purely practical reasons it is easier and more fruitful to begin with the comparison of basic vocabulary items.

A second important consideration is that comparison should be on the widest possible scale and utilize data from all the languages for which material exists. It might be thought that surer results would be attained by comparing only a small number of languages based on hypotheses of very limited scope. It will not be possible to discuss here all the reasons which indicate that this is not the case, but a few relevant factors may be indicated. It is a basic principle of comparative linguistics that a form is an inherited one if it reappears in languages of other subgroups of the same stock, while there is no *prima facie* case for this if it does not. This principle is of primary importance in eliminating purely accidental resemblances between two languages. Moreover, by considering all the more closely related languages on either side, the form can also be tested to see if the tentatively reconstructed forms for both groups are similar. The comparative method has always been applied to groups of languages rather than languages in isolation.

If we choose a small number of languages and compare them on a narrow basis not only are our results less reliable, but even when they are correct they are less significant and even misleading to archeologists and ethnologists because they are unlikely to be valid genetic units in the sense described earlier. Finally it may be pointed out that the evidential bearing of valid etymologies depends on their distribution. Thus, on an isolated hypothesis connecting Panoan with the distant Totonac, we might note the striking resemblance of Totonac *makan* and Panoan *meken*, both meaning "hand." However, we might misinterpret this form, which is actually found in a number of major stocks, as evidence for a special relationship between Totonac and Panoan, if we do not consider it in terms of the total relevant distribution.

With these methodological factors in mind, a brief description of the actual procedures will be given. The first was in the nature of a preliminary survey designed to provide initial hypotheses concerning groupings in South America. This consisted in the compilation of about forty vocabulary items which experience had shown to be among the most stable, for approximately forty languages. Among these languages were a number of the Arawak, Tupi and Carib languages on the assumption that larger groups such as these provide greater depth for comparative purposes than single isolated languages or small language stocks. From this first comparison a number of groups emerged, notable the Andean, Macro-Ge, Macro-Panoan, and Equatorial. Each of these was then assigned a separate notebook and a list of over three hundred words was



compiled for each language, insofar as they were obtainable. New languages were compared with each of these groups with emphasis not on stray resemblances with single languages but on the occurrence of forms derivable by known types of sound changes from the tentatively reconstructed originals based on recurrent forms. Where languages did not fit into any of the established groups, they were assigned to new separate groups and entered in other notebooks. As new languages were examined, adding to the precision with which the basic lexical fund of each group was known, it became evident that certain of these groups, for example Macro-Ge and Macro-Panoan, were particularly close to each other and formed parts of still larger groupings. Material from over 250 languages was entered into notebooks at this stage.

The third procedure involves the use of index cards, each assigned to one semantic sphere, e.g., sun and day. Utilizing the material in the notebooks, entries are made in separate paragraphs for each probable etymology involving any languages in the area covered. It is thus possible to see at a glance the distribution of each set of probably related forms. This part of the work is still in its initial stages. When it is completed it will be possible to marshal the evidence in systematic form to solve the more difficult problems of grouping.

A fourth procedure has been the compilation of grammatical information for approximately thirty languages. The information in this area is, of course, less extensive in the existing literature than the lexical. What has been recorded thus far does not contradict conclusions based on lexicon, and in some cases adds striking confirmation. Thus a common system of singular pronominal prefixes seems to run through the entire Ge-Pano-Carib group and includes an irregular alternation in the third person.

It is hoped that other linguists will independently try the method of mass comparison suggested here in order to test the writer's conclusions. The ultimate test is a pragmatic one. Those parts of Sapir's scheme such as Penutian and Na-Dene which are valid have proved fruitful in that workers have been able to carry on more advanced comparative investigation within their framework. On the other hand, various suggestions regarding Central America contained in Sapir's *Encyclopedia Britannica* article have, in general, been ignored. My own methods indicate that they are, for the most part, incorrect. In the same fashion, if the present classification is correct, it will prove its usefulness in future more advanced comparative investigations, and arguments raised against it will be disregarded. By the same token it cannot be saved by the most ingenious argumentation if it fails the crucial test of practice.

#### TENTATIVE LINGUISTIC CLASSIFICATION OF CENTRAL AND SOUTH AMERICA

#### I. Macro-Chibchan

##### A. Chibchan proper

1. Chibcha-Duit, Tunebo group, Aruaco group, Cuna-Cueva, Guaymi-Dorasque, Talamasca group, Rama-Guatuso
2. Misumalpan, Paya, Xinka, Lenca
3. Shiriana

##### B. Paezan

Choco, Cuaiker, Andaki, Paez-Coconuco, Colorado-Cayapa, Warrau, Mura-Matanawi, Jirajira, Yunca, Atacameno, Itonama

## II. Andean-Equatorial

## A. Andean

1. Ona, Yahgan, Alakuluf, Tehuelche, Puelche, Araucanian
2. Quechua, Aymara
3. Zaparoan (including Omurano, Sabela), Cahuapana
4. Leco, Sec, Culle, Xibito-Cholon, Catacao, Colan
5. Simacu

## B. Jibaro-Kandoshi, Esmeralda, Cofan, Yaruro

## C. Macro-Tucanoan

1. Tucano (including Auixira), Catuquina, Ticuna, Muniche, Auaque, Caliana, Macu, Yuri, Canichana, Mobima
2. Puinave

## D. Equatorial

Arawak (including Chapacura-Uanhaman, Chamicuro, Apolista, Amuesha, Araua, Uru), Tupi (including Ariqueme), Timote, Cariri, Zamuco, Guahibo-Pamigua, Saliban, Otomaco-Taparita, Mocoa, Tuyuneri, Yurucare, Trumai, Cayuvava

## III. Ge-Pano-Carib

- A. 1. Macro-Ge: Ge, Caingang, Camacan, Machacali, Puri, Patacho, Malali, Coropo, Botocudo, Chiquita, Guato, Fulnio, Oti (prob.)

## 2. Bororo

## 3. Caraja

## B. Macro-Panoan

Tacana-Pano, Moseten, Mataco, Lule, Vilela, Mascoy, Charrua, Guaycuru-Opaie

## C. Nambicuará

## D. Huarpe

## E. Macro-Carib

Carib (including Pimenteira and Palmella), Peban, Witotoan, Cucura (prob.)

## F. Taruma

## IV. Oto-Mangue

## V. Tarascan

## VI. Hokan including Jicaque, Yurumangui (prob.)

## VII. Penutian including a Mexican branch: Mixe-Zoque, Huave, Mayan, Totonac

## VIII. Azteco-Tanoan

*Columbia University,  
New York, New York.*